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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,024	02/17/2004	Ming-Ren Lian	C4-1206	9258
26799	7590	08/09/2005	EXAMINER	
IP LEGAL DEPARTMENT TYCO FIRE & SECURITY SERVICES ONE TOWN CENTER ROAD BOCA RATON, FL 33486			TANG, SON M	
			ART UNIT	PAPER NUMBER
			2632	

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/780,024

Applicant(s)

LIAN ET AL.

Examiner

Son M. Tang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/17/04 & 7/19/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 15 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1 and 22, claimed "sensor" but does not specify what is being sensed?, the same with method claim 15 of claimed "detecting".

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 15 and 20-23^{cf} are rejected under 35 U.S.C. 103(a) as being unpatentable over Guichard et al. [US 5,519,317].

Regarding claims 1 and 22: Guichard discloses an apparatus, comprising:

-an oscillation circuit 11 to generate an oscillation signal using a resonant circuit 13, said oscillation circuit 13 to modify a characteristic of said oscillation signal (S1) in response to an external source (14); and

-a sensor (12) to receive said oscillation signal (S1), detect said modification, and generate a detect output signal in accordance with said detection [as shown in Fig. 1 and col. 2,

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lines 47-67 to col. 3, lines 1-25]. Guichard does not specifically disclose that an oscillation signal using a marker. Since, marker is a name call for a known type of resonant device or type of a material uses for the coil in a resonant circuit. Therefore, it would have been obvious of one having ordinary skill in the art calls resonant circuit is a marker, because the performing and result are the same.

Regarding claims 2-3: Guichard further discloses that sensor 12 receives a frequency of said oscillation signal S1 and detects a change in amplitude of said frequency and output detected signal [see Fig. 1, col. 3, lines 1-26].

Regarding claim 4: Guichard further discloses wherein said external source comprises a metal (14).

Regarding claim 23: ^{ck} Guichard discloses all the limitations as described above, and further discloses an alarm system met by output circuit 19 includes a (visual indicator) met by a display indicator [see col. 3, lines 15-23].

Regarding claims 15 and 20-21: The claimed method steps are interpreted and rejected as rejection stated above.

5. Claims 5-10, 13-14 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guichard et al. in view of Guichard et al. [US 5,508,662].

Regarding claim 5: Guichard discloses all the limitations as described above, and further discloses a driver coil (15) generate a magnetic field , a resonant circuit (13) generate a signal in response to said magnetic field; and a tuning circuit (16) which continues increasing the oscillation signal (F_{lc}) of resonant circuit and drive coil (F_o) to form an oscillation signal at

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certain frequency [as shown in Fig. 1 and col. 2, lines 47-60], and a sense coil (met by a coil L in the resonant circuit), Guichard '317 does not specifically disclose an amplifier to amplify said resonant circuit in the tuning circuit. Guichard '662 teaches an proximity sensor comprising an amplifier¹⁷ for amplifying said oscillating signal of resonant circuit until gain for said amplifier signal reaches a driver signal at a predetermined gain [as shown in Fig. 1-2 and col. 1, lines 50-57]. It would have been obvious of one having ordinary skill in the art at the time of the claimed invention, to implement an amplifier as taught in Guichard '662 in the tuning device of Guichard '317, for the purpose of more sensitivity and precisely.

Regarding claim 6: Guichard discloses all the limitations as described above, and further teaches that the oscillation signal of oscillator 15 has a frequency substantially matching [cited at col. 2, lines 52-60].

Regarding claims 7-8: Guichard discloses all the limitations as described above, and '662 further teaches a gain control means 18 connect to said oscillation circuit [see Fig. 1-2], but lack of mention that automatic gain control in the amplifier. Examiner takes an Official Notice that an automatic gain amplifier is known in electrical art.

Regarding claims 9-10: Guichard discloses all the limitations as described above, and further teaches a drive coil inheres in oscillator 15, a sense coil (L) of resonant circuit 13, except for not specifically show two sense coils connected in series and wound in phase opposition, with one coil having said marker, and drive coil wound around both coils. Since, a large coil (L) is being sensed and create approximately equal flux with oscillator 15, therefore, using two small coils in series would be a matter of design choice. It would have been obvious of one having ordinary skill in the art at the time of the claimed invention, to implement two

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small sense coils connected in series as claimed, base on or due to factors such as current cost, promotions user preference, application environment and/or availability of parts at the time of implementation.

Regarding claim 13: Guichard discloses all the limitations as described 1 and 5 above, except for not specifically teaches an inductor coil having said marker. Again, marker is a name of an element material, therefore, it obvious of one having ordinary skill in the art that any appropriate material can be used for inductor coil includes marker as applicant claimed.

Regarding claim 14: Guichard discloses all the limitations as described above, and further teaches that the drive coil 15 is planarized to improve coupling with said external source 14 [see Fig. 1].

Regarding claims 16-19: The claimed method steps are interpreted and rejected as rejection stated in claims above.

6. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guichard et al. in view of Guichard et al. [US 5,508,662] in claim 5 above, and further in view of Groger et al. [US 5,514,337].

Regarding claims 11-12: Guichard discloses all the limitations as described above, except for not specifically teaches that wherein marker has an outer coating to absorb an analyte, such as chemical and gas. Groger teaches a chemical sensor comprises a sensor coil 13 has an outer coating film (32) to absorb an analyte chemicals and gas [see Fig. 4-6 and col. 1, lines 59-64, col. 2, lines 45-49, col. 3, lines 26-29 and col. 6, lines 62-67]. It would have been obvious of one having ordinary skill in the art at the time of the claimed invention, to implement a chemical

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sensing coating as taught by Groger in the sensing coil of Guichard, for the benefit of additional feature which can detected proximity and chemical at the same time.

Conclusion

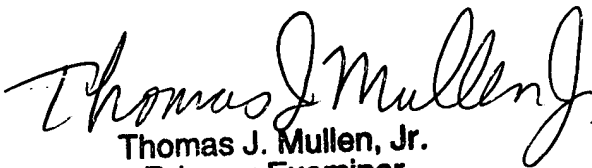
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Takinami et al. [US 5,227,667] see Fig. 11, Gaudreau et al. [US 5,942,991] environment condition present sensor, Wilson et al. [US 4,001,718], Wilson [US 4,068,189], Teodorescu [US 5,986,549], Fletcher [US 6,834,251], Goezinne [US 6,847,215] and Machul [US 2003/0048186].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son M. Tang whose telephone number is (571)272-2962. The examiner can normally be reached on 4/9 First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J. Wu can be reached on (571)272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Son Tang


Thomas J. Mullen, Jr.
Primary Examiner
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